

Test-A-Pack 2600

Seal Strength Tester

P/N: F100-2600-3

COBHAM

The most important thing we build is trust



The Cobham Test-A-Pack Model F100-2600-3 Seal Strength Tester is the heart of the world's most advanced package testing system. It automatically regulates air pressure to determine the seal strength of a wide variety of porous and non-porous packages used in the medical, food and pharmaceutical industries. The tester is ideal for performing burst and creep tests in accordance with ASTM F1140-2000 and is a valuable tool for users seeking ISO 11607 compliance.

This tester is a highly accurate, multifunctional pressure control and monitoring device.

The burst test function automatically inflates the test sample until seal failure occurs. The creep test feature checks package seals under sustained pressure. The creep-to-burst feature sequentially checks minimum required seal strength and maximum pressure at burst. The operator sets test variables using easy to follow menu screens, and then initiates the test sequence by simply pressing the start button. Test results are displayed on the screen and are held in memory.

The tester includes a parallel printer port and a serial output port for easy interface with a PC.

Key Features

- Test-A-Pack quality and reliability
- Automatic control
- Burst and creep capability
- 0.2% pressure accuracy
- 0.3 in H₂O resolution
- Serial data output

Specifications

Source	70 to 100 psi clean, dry air
Electrical Power	100 to 240 VAC @ 50 to 60 Hz
Input/Output	DB25 female parallel printer port, DB9 female serial port

Operating Environment

Temperature	
Operating	40 to 110 deg F (4 to 43 deg C)
Non-operating	0 to 126 deg F (-18 to 52 deg C)
Humidity	Up to 90% relative humidity

Performance

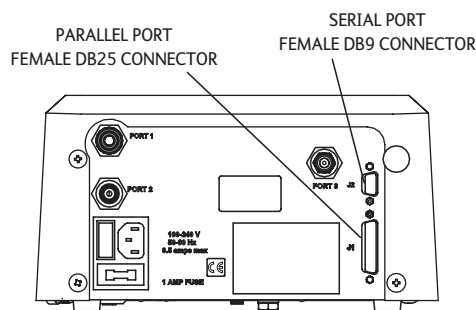
Pressure Accuracy	0.2% full scale	(50 PSI) (3.45 bar)
Pressure Resolution	0.3 in H ₂ O	(.7 mbar)
Sensitivity Adjustment	Nine programmable settings	
Flow Adjustment	Nine programmable settings	

Testing Range

	In H ₂ O	PSI	KPa	CM H ₂ O
Min Burst	5	0.2	1.2	13
Max Burst	1,384	50	344	3,519
Min Creep	5	1	3	13
Max Creep	1,384	50	344	3,514

Ordering Information

Part Number	F100-2600-3
Description	Seal Strength Tester
Relevant Dim	11.4" W x 15.0" L x 6.0" H (29 cm, x 38 cm, x 15 cm)
Weight	13 lbs (5.9 kg)

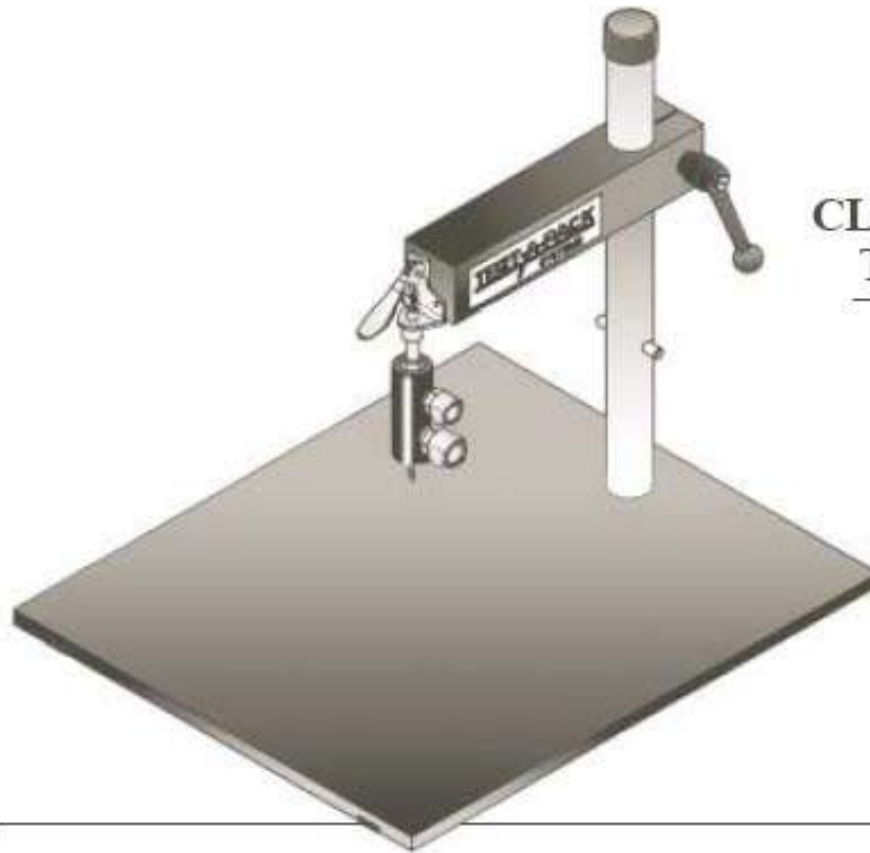


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Operator's Manual



CLOSED PACKAGE TEST FIXTURE

**F100-1320-4
F100-1320-5
F100-1320-6**

The Closed Package Test Fixture is used with Test-A-Pack Automatic Control Console models F100-1380, F100-2500, and F100-2600. The Closed Package Test Fixture provides a quick and convenient method to retain and test sealed porous or non-porous pouches, lidded trays, and containers. Two standard needle assemblies are available. The 3/16 inch diameter single needle assembly is used to test medium to large packages, and the double needle assembly is used to test smaller packages.

CAUTION

**Read and follow all safety precautions and instructions
before operating this equipment.**

Installation

WARNING:

- ☒ Use eye and ear protection while operating the Closed Package Test Fixture.
 - ☒ Packages and/or package contents can become airborne projectiles during testing. Personnel must take adequate safety precautions.
 - ☒ Inflation needles are extremely sharp. Use caution during set-up and test to avoid injury to hands and fingers.
 - ☒ Air pressure must be off during system installation.
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CAUTION:

The Closed Package Test Fixture and the Automatic Control Console require an instrument quality dry air supply. The use of contaminated air may damage internal components, degrade performance and void warranty.

Refer to Figure 1.

INSTALLATION:

- ☐ **A** Install the 3/8" tube (1) from the outlet pressure port (**Port 2**) on the Automatic Control Console (2) into the Closed Package Test Fixture's pressure port connector (5).
- ☐ **B** Install 1/4" tube (4) from the sensing pressure port (**Port 3**) on the Automatic Control Console (2) into the test fixture's sensing port connector (3).
- ☐ **C** Attach a source of clean dry air (70 PSI Min. to 100 PSI Max.) to the 1/4" NPT Air Inlet Port (**Port 1**) of the Automatic Control Console.

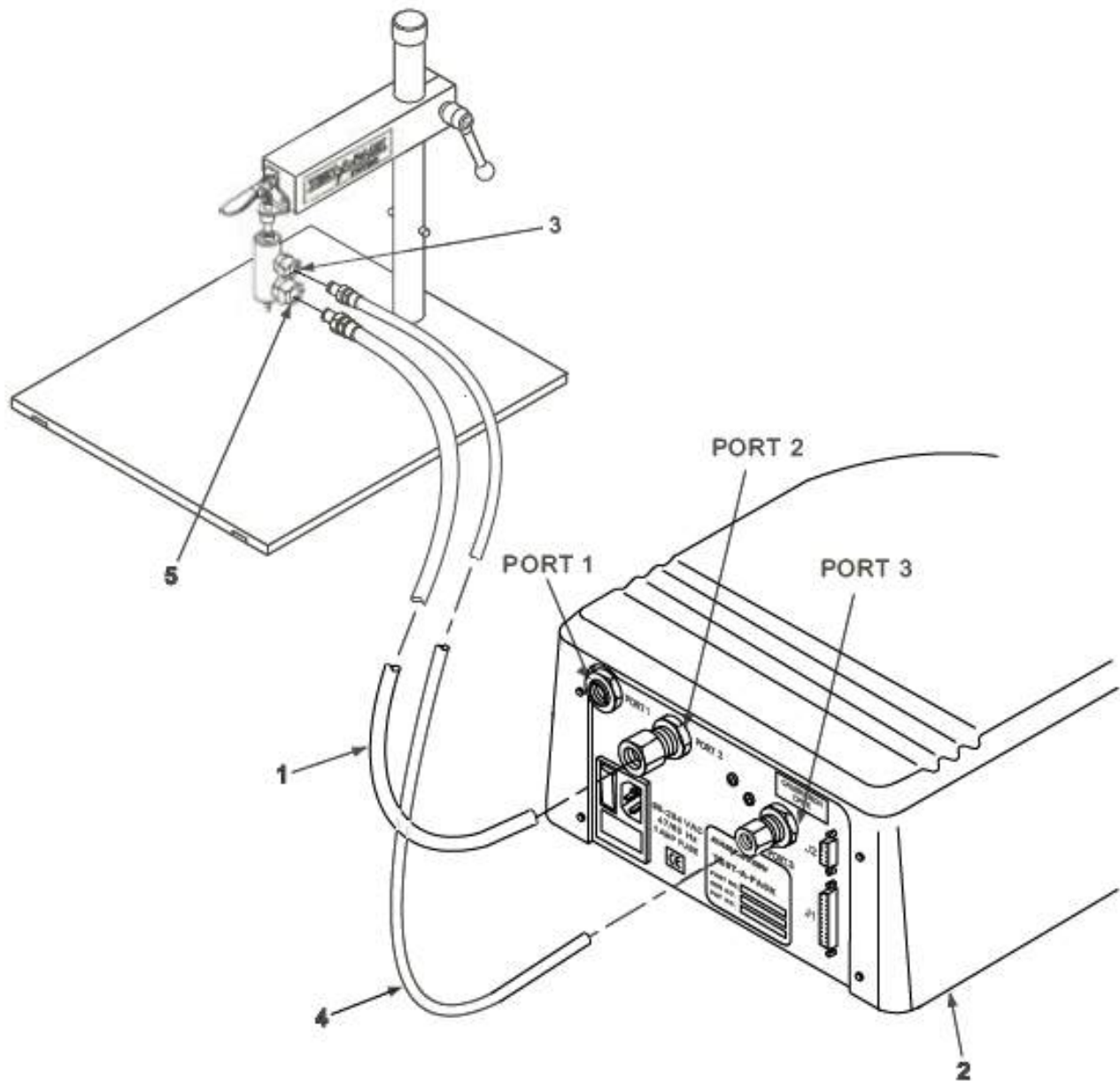
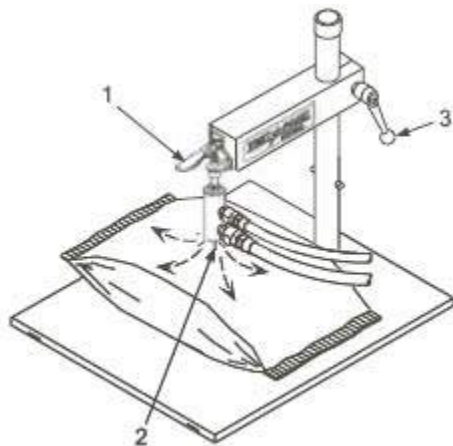


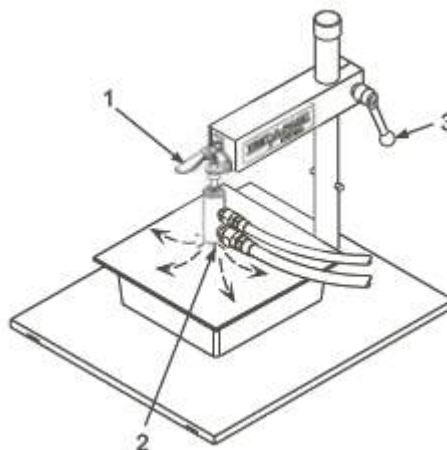
Figure 1 ---- Closed Package Test Fixture Hookup

CLOSED PACKAGES

- 1) Determine and record for later reference the correct needle probe (2) test height with the locking mechanism lever (1) in the down position, using the vertical height adjustment lever (3).



Closed Package (Soft)



Closed Package (Rigid)

The proper height will allow the package to inflate and “dome” or “pillow” up without restriction by the needle probe. It may be necessary to experiment with the height adjustment, while applying pressure, to obtain the optimum position. The package will inflate and come into slight contact with the base of the fixture and the bottom of the manifold.

Note: To prevent certain soft packages from tearing, it may be necessary to place masking tape over area of penetration.



- 2) With the locking mechanism lever **(1)** in the up position, carefully puncture the package in the center of the lid. Push the locking mechanism lever down. Hold the package in place with one hand and press the START button on the Control Console with the other hand.



WARNING:

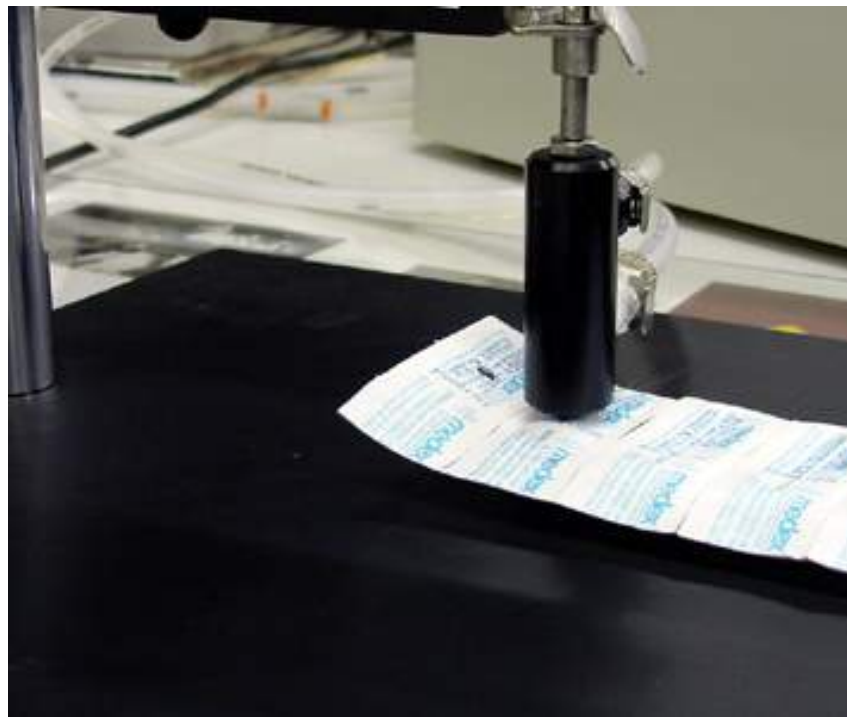
Use caution when handling inflation needles to avoid personal injury.

- 3) Hold the package in place with both hands until the package inflates to the point where it comes into contact with the base of the test fixture and the bottom of the needle probe.



- 4) Release the package and allow the burst or creep test to complete.

Note: Record the measured height for each of your packages and use this data each time that particular pouch is tested for consistent test results.



Test-A-Pack



**F100-1750-1
F100-1750-3
CLOSED PACKAGE
RESTRAINING PLATE FIXTURE**

OPERATOR'S MANUAL

INTRODUCTION

Package deformation during inflation tends to affect burst test results. Variations in package deformation can be caused by operator interference during testing, non-uniformity of package materials and fixturing inconsistencies. The F100-1750-1 Closed Package Restraining Plate Fixture design minimizes deformation of the package under test. This affords the operator less variation in test results by virtually eliminating gross package deformation as a variable.



Do not exceed 50 psi operating pressure to any package under test. Pressure in excess of 50 psi may cause failure of the fixture and result in serious injury or death.

Do not attempt to disassemble the Closed Package Restraining Plate Fixture! Structural adhesives are used to lock bolts in place for the safety of the operator. Any attempt to remove the bolts will weaken the assembly and may place the safety of the operator in jeopardy.



The fixture is extremely heavy. Do not attempt to move alone. Utilize two people, proper lifting techniques and, if necessary, adequate back support.

Use proper ear protection when using the test fixture. Restrained packages will present a loud report when burst.

Use proper eye protection when using the test fixture. Packages may fragment and become airborne during restrained testing.

SPECIFICATIONS

- The F100-1750-1 Restraining Plate Fixture will accept packages up to 14 inches wide by 20 inches long (35.56 cm X 50.8 cm).
- Needle Probe: 3/16inch single needle
- Maximum operating pressure: 50 Psi (2.39 kPa)
- **DASH-001:** The restraint system can be adjusted for any gap between 0 and 2 inches (0 and 5.08 cm).
- **DASH-003:** The restraint system can be adjusted for any gap between 1.5 and 3 inches (3.81 and 7.62 cm).
- Weight: 85 pounds (38.55 kg)

INSTALLATION AND SETUP

- The recommended inflation source for the Restraining Plate Fixture is the Test-A-Pack F100-2600-3 Seal Strength Tester. Please see the user manual for the F100-2600 for proper operation.
- Place the Restraining Plate Fixture on a clean flat surface.
- Connect the pressure and sensing line hoses to the needle probe on the top of the fixture and to the back of the F100-2600.

TESTING PACKAGES

- In order to puncture of the package, it is recommended that either a lidded tray or a flexible pouch with a ring placed inside be used. Placement of a ring inside the flexible package can be completed ahead of time.
- Use the black knurled knob on the stainless steel shuttle tray to pull it out. (Figure 1. A.) Place the flexible package onto tray lining up the desired puncture site. (Figure 1. B.)

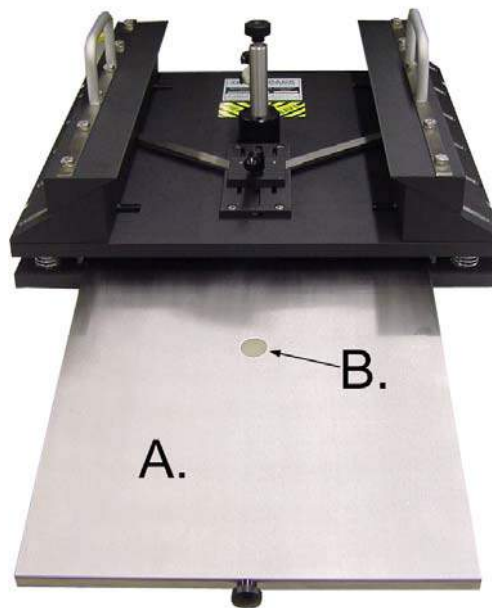


Figure 1.

- Reinsert the shuttle tray into the fixture, careful not to move the package relative to the tray.

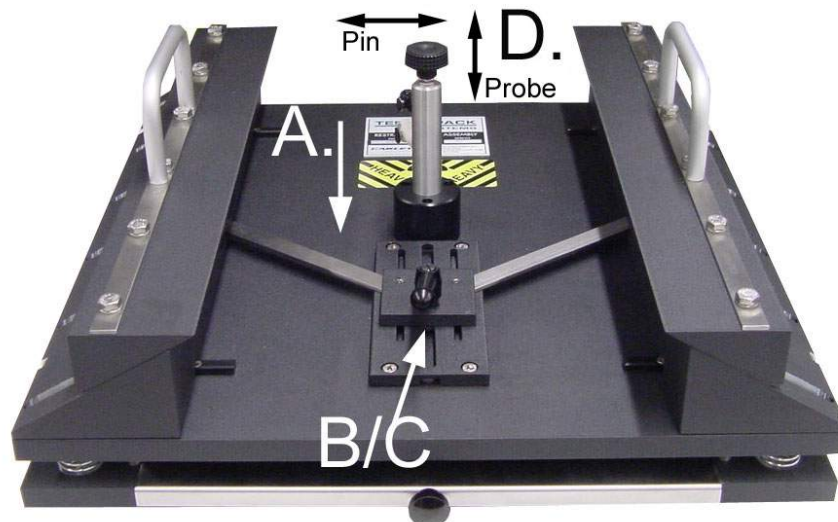


Figure 2.

- To set the proper gap and puncture the package:
 - Push straight down firmly on the top plate assembly until it contacts the package or reaches the desired gap.
 - While holding the desired gap, push the locking slide towards the needle probe to deploy the shims.
DO NOT TRY TO DEPLOY THE SHIMS USING THE LOCKING SLIDE TO PUSH DOWN ON THE TOP PLATE. THIS COULD RESULT IN DAMAGE TO THE SYSTEM. BE SURE TO FOLLOW THE PROCEDURE DESCRIBED IN STEP A.
 - Turn the locking slide handle clockwise until tight.

D. The needle probe mechanism moves up and down to accommodate loading and unloading of the package under test. The small pin located on the assembly's black collar is designed to lock the needle down in the package or hold it up out of the way when changing a package. To move the needle probe, slide the lock pin left or right within its slot and raise or lower the silver colored assembly using the knurled knob located on the top.

- Begin testing

MAINTENANCE

The F100-1750-1 is designed to be maintenance free. If occasional cleaning becomes necessary, use a mild soap and water solution, and a soft cloth.

It is not possible to service the mechanism of the Closed Package Restraining Plate Fixture. Do not attempt to disassemble the fixture.

Optional Test-A-Pack Accessories

F100-2600-3 Seal Strength Tester

Open Package Test Fixtures:

F100-1600-2	24" Open package test fixture
F100-1600-3	12" Open package test fixture
F100-1600-4	40" Custom open package test fixture

Closed Package Test Fixtures:

F100-1320-4	6 ½" Maximum height- 3/16" needle probe
F100-1320-5	14" Maximum height- 3/16" needle probe
F100-1320-6	6 ½" Maximum height- double needle probe (for small packages)

Restraining Plates:

F100-1700-1	For pouches up to 14"W x 20"L –for use with the 1600 series
F100-1720-1	Closed Package Fixture with 4 adjustable gaps
F100-1750-1	Closed Package Fixture with infinitely adjustable gap

Printers:

F100-2573-1	110Volt AC printer kit
F100-2573-4	220Volt AC printer kit

Replacement Parts:

F100-2669-1	Pressure and sensing line kit
F100-1418-3	Inflation port with wing- for use with 1600 series
F100-1428-2	Inflation port without wing- for use with 1600 series
CTMANF006-1	3/16" single needle probe assembly- for use with 1320 series
CTMANF007-1	Double needle probe assembly- for use with 1320 series

Software:

CTSOFT001-1	Test-A-Pack Systems Data Collection Software
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Contact Information

For more information:

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Test-A-Pack



F100-1750-2 OPEN PACKAGE RESTRAINING PLATE FIXTURE

OPERATOR'S MANUAL

INTRODUCTION

Package deformation during inflation tends to affect burst test results. Variations in package deformation can be caused by operator interference during testing, non-uniformity of package materials and fixturing inconsistencies. The F100-1750-2 open Package Restraining Plate Fixture design minimizes deformation of the package under test. This affords the operator less variation in test results by virtually eliminating gross package deformation as a variable.



Do not exceed 50 psi operating pressure to any package under test. Pressure in excess of 50 psi may cause failure of the fixture and result in serious injury or death.

Do not attempt to disassemble the Closed Package Restraining Plate Fixture!
Structural adhesives are used to lock bolts in place for the safety of the operator. Any attempt to remove the bolts will weaken the assembly and may place the safety of the operator in jeopardy.



The fixture is extremely heavy. Do not attempt to move alone. Utilize two people, proper lifting techniques and, if necessary, adequate back support.

Use proper ear protection when using the test fixture. Restrained packages will present a loud report when burst.

Use proper eye protection when using the test fixture. Packages may fragment and become airborne during restrained testing.

SPECIFICATIONS

- The F100-1750-2 Restraining Plate Fixture will accept packages up to 14 inches wide by 20 inches long (35.56 cm X 50.8 cm).
- Maximum operating pressure: 50 Psi (2.39 kPa)
- The restraint system can be adjusted for any gap between 1.5 and 3 inches (3.81 and 7.62 cm).
- Weight: 85 pounds (38.55 kg)

INSTALLATION AND SETUP

- The recommended inflation source for the Restraining Plate Fixture is the Test-A-Pack F100-2600-3 Seal Strength Tester. Please see the user manual for the F100-2600 for proper operation.
- Place the Restraining Plate Fixture on a clean flat surface.

Note: The fixture is on casters and can roll freely. Ensure that it does not roll and fall to the floor.

SETTING THE PLATE GAP

- To set the proper gap:
 - A. Push straight down firmly on the top plate assembly until it contacts the package or reaches the desired gap.
 - B. While holding the desired gap, push the locking slide towards the needle probe to deploy the shims.

DO NOT TRY TO DEPLOY THE SHIMS USING THE LOCKING SLIDE TO PUSH DOWN ON THE TOP PLATE. THIS COULD RESULT IN DAMAGE TO THE SYSTEM. BE SURE TO FOLLOW THE PROCEDURE DESCRIBED IN STEP A.
 - C. Turn the locking slide handle clockwise until tight.

TESTING PACKAGES

- Install a flexible package into an open package inflation fixture.
- Insert the end of the flexible package into gap of the restraining plates.
- Roll the restraining plates against the open package inflation fixture.
- Begin testing

MAINTENANCE

The F100-1750-3 is designed to be maintenance free. If occasional cleaning becomes necessary, use a mild soap and water solution, and a soft cloth.

If the air insertion probe becomes damaged, contact Test-A-Pack for return/repair instructions.

Whenever sending items for calibration or repair fill out and return an RMA form which can be found on our home page at testapack.com.

Do not attempt to disassemble the fixture!

It is not possible to safely service the mechanism of the Closed Package Restraining Plate Fixture in the field. Special adhesives have been applied to insure the integrity and safety of the restraining plates. Should you need service, contact Test-A-Pack.

Contact Information

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